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PATENT & TRADEMARK OFFICE
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AF/2676

Atty Docket No. 080398.P288

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	Examiner: Tran, Tam D.
Samra, Sukendeep	)	Art Unit: 2676
Serial No. 09/665,721	)	Confirmation No.: 5421
Filed: September 18, 2000	)	
For: SYSTEM AND METHOD FOR DYNAMIC AUTOCROPPING OF IMAGES	)	

Mail Stop Appeal Brief- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. § 41.37(a)

This is an appeal to the Board of Patent Appeals and Interferences from the decision of the Examiner of Group 2676, dated August 10, 2004, which finally rejected Claims 1-56 in the above-identified application. This Appeal Brief is hereby submitted pursuant to 37 C.F.R. § 41.37(a).

FIRST CLASS CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to Mail Stop ~~Appeal Brief~~- Patents, Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 on 1/10/05.
Date of Deposit

Cheri Clinkenbeard
Name of Person Mailing Correspondence

CClinkenbeard 1/10/05
Signature Date

01/18/2005 SSESHE1 00000016 09665721
01 FC:1402 500.00 OP

I. REAL PARTY IN INTEREST

The real parties in interest are the assignees of the full interest in the invention, Sony Corporation, 7-35 Kitashinagawa, 6-Chome, Shinagawa-Ku, Tokyo, Japan, and Sony Electronics, Inc., 1 Sony Drive, Park Ridge, New Jersey 07656.

II. RELATED APPEALS AND INTERFERENCES

To the best of Appellant's knowledge, there are no appeals or interferences related to the present appeal that will directly affect, be directly affected by, or have a bearing on the Board's decision in the instant appeal.

III. STATUS OF THE CLAIMS

Claims 1-56 are pending in the application and were finally rejected in an Office Action mailed August 10, 2004. Claims 1-56 are the subject of this appeal. A copy of Claims 1-56 as they stand on appeal are set forth in Appendix A.

IV. STATUS OF AMENDMENTS

No amendments have been submitted subsequent to the Final Office Action mailed August 10, 2004.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellant's claims 1-56 are directed to creating autocrop (automatic cropping) data for each image of a sequence of images. The claimed invention provides for automatically reading images from a sequence of images, automatically cropping each of the images to produce active region data for the current image, and automatically designating key frames in the sequences of images. Key frames are image frames of a sequence of images which are important to the sequence of images and include the first image of a sequence of images, and image frames which are substantially different from the prior image frame (Specification, page 7, lines 34-37; Figure 3, 38).

Independent claim 1 claims a method in which autocrop data for each image of a sequence of images is prepared. Each image comprises a frame of video data. Autocrop data for each key frame of the sequence of images is stored. Independent claims 15 and

29 are machine readable medium and system claims corresponding to independent claim 1.

Independent claim 43 claims an apparatus comprising means for preparing autocrop data for each image of a sequence of images (Specification, page 7, lines 34-37; Figure 3, 38), each image comprising a frame of video data (Specification, page 5, lines 7-14), and means for storing autocrop data for each key frame of the sequences of images (Specification, page 9, lines 8-12; Figure 3, 60).

VI. GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

I. Whether Claims 1-56 are patentable under 35 U.S.C. § 102(b) over U.S. Patent 5,729,673 to Cooper et al. (hereinafter Cooper).

VII. ARGUMENT

I. Claims 1-56 are patentable under 35 U.S.C. § 102(b) over Cooper.

Cooper is directed to a user interface for creating three-dimensional effects or manipulations of a projection surface relative to a display surface. The user interface includes a key frame time line that displays several key frame indicators. The key frames can be inserted by an editor, or provided in predetermined default positions along the key frame time line. To create an effect, a user selects a key frame to perform operations including positioning, rotating, cropping, or scaling the projection surface. Cropping of the key frame projection surface is performed manually by the user with a crop handle. Once all key frames have been manipulated as desired by the user, the effect parameters are stored, and the entire effect may be displayed by interpolating frames between the defined key frames.

A. Claims 1, 8, 15, 22, 29, 36, 43 and 50 are patentable under 35 U.S.C. § 102(b) over Cooper.

Claims 1, 8, 15, 22, 29, 36, 43 and 50 stand or fall together. Claim 1 is the representative claim.

Independent claim 1 includes the limitation of storing autocrop (automatic cropping) data for each key frame of a sequence of images. Cooper does not disclose this

limitation. Appellant notes that the claim term "autocrop" is synonymous with "automatic cropping," as supported throughout Appellant's Specification, in particular at page 6, line 36 – page 7, line 6.

The Examiner has asserted that "Cooper teaches the computer performing the cropping for current key frame" (Final Office Action mailed August 10, 2004, Response to Arguments, page 4, line 9). Cooper's disclosure does not support such an interpretation. Numerous references are made in Cooper that describe a human user manually performing a cropping operation on a key frame. In part, Cooper discloses that a user manually crops a projection surface of a key frame by manipulating a crop handle displayed on a computer monitor to adjust the portion of the image on the projection surface (Cooper, col. 9, lines 18-30). Further, at column 5, lines 44-52, Cooper states that "after selecting the current key frame (step 52), the editor can...crop the projection surface for the current key frame..." Appellant submits that Cooper's reference to an "editor" must be interpreted as a human user, not a computer. For example, at col. 6, lines 45-46, Cooper states that "if the editor is not done with the desired effect (step 70), he or she can decide..." Thus, Cooper's manual cropping operation cannot be equated to Appellant's claimed preparing autocrop data, which is subsequently stored.

Additionally, Cooper does not disclose Appellant's claimed key frame. The words of the claim must be given their plain meaning as understood in the art unless the specification provides a different definition. The claim term "key frame" is a well-known term of art in the field of film and video, and is defined as a frame of a film or video that contains significant video data. Appellant has used the term in the Specification consistently with its well-known meaning in the art. See, for example, Appellant's Specification at page 6, lines 27-33. In addition, Appellant's Specification states that a current frame is designated as a key frame if "the current image is a first image, if the active region of the current image is not inside the prior image's active region, or if smoothing is needed" (Specification, page 8, lines 31-33).

In contrast, Cooper's key frames correspond to specific frames at a point in time in an effect, and designate three-dimensional positions along a motion path that a projection surface will take as an effect is displayed (Cooper, col. 5, lines 11-13; col. 9, lines 55-58; col. 10, lines 1-5). Cooper does not disclose that a frame selected for

cropping must be any of a first image of a sequence of images, an image which contains an active region outside of the prior image's active region, or an image which requires smoothing. Therefore, Cooper does not disclose a key frame as the term is used by Appellant and as is understood in the art. Furthermore, identity of terminology between Cooper and Appellant's claimed invention, alone, does not establish anticipation. Rather, the Examiner must consider the context of Cooper's use of the term "key frame," and in doing so, the Examiner should have recognized that Cooper's key frame is not equivalent to Appellant's claimed key frame. Accordingly, claim 1 is not anticipated by Cooper under 35 U.S.C. § 102(b), and the rejection of claims 1, 8, 15, 22, 29, 36, 43 and 50 should be withdrawn.

B. Claims 2-7, 13, 14, 16-21, 27, 28, 30-35, 41, 42, 44-49, 55 and 56 are patentable under 35 U.S.C. § 102(b) over Cooper.

Claims 2-7, 13, 14, 16-21, 27, 28, 30-35, 41, 42, 44-49, 55 and 56 stand or fall together. Claim 2 is the representative claim.

Claim 2 depends from claim 1, and includes the further limitation that preparing autocrop data comprises determining the active region of a current image of the sequence of images. Appellant's Specification describes an active region as a region surrounded by pixels that are fully transparent or pixels that have no opacity. An active region may also be a region surrounded by pixels that are outside a certain opacity threshold that may be either pre-defined by the system or user defined. See, for example, Specification at page 9, lines 13-18, and Figures 4A and 4B.

As discussed above, Appellant submits that Cooper does not disclose the claimed limitation of preparing autocrop data, nor does Cooper disclose the claimed key frames. Furthermore, Appellant submits that Cooper does not disclose claim 2's limitation of determining an active region of a current image. The Examiner has referred to column 5, lines 15-65 of Cooper as anticipating this limitation. However, this section of Cooper discloses three-dimensional manipulations for a projection surface of a selected key frame, and does not disclose determining an active region, as claimed by Appellant. Additionally, Appellant submits that Cooper, as a whole, does not disclose the claimed limitation of determining an active region. Cooper's disclosure does not even discuss

pixels, transparency, or opacity, and thus cannot be interpreted to disclose determining an active region, as claimed.

Accordingly, claim 2 is not anticipated by Cooper under 35 U.S.C. § 102(b), and the rejection of claims 2-7, 13, 14, 16-21, 27, 28, 30-35, 41, 42, 44-49, 55 and 56 should be withdrawn.

C. Claims 9-12, 23-26, 37-40 and 51-54 are patentable under 35 U.S.C. § 102(b) over Cooper.

Claims 9-12, 23-26, 37-40 and 51-54 stand or fall together. Claim 9 is the representative claim.

Claim 9 depends from claim 1, and includes the further limitations that a current image is designated as a key frame if it is the first frame of the sequence of images, if an active region of the current image is outside the active region of a prior image, or if smoothing is needed.

As discussed above, Appellant submits that Cooper does not disclose the claimed limitation of preparing autocrop data, nor does Cooper disclose the claimed key frames. Furthermore, Appellant submits that Cooper does not disclose claim 9's limitations of designating a key frame. Cooper's key frames are either manually selected by a user, or are selected by default (Cooper, col. 5, lines 5-25 and lines 44-45). Cooper does not disclose that a frame's position in a sequence of images is considered in selecting a key frame. Nor does Cooper disclose that an active region of an image is considered in selecting a key frame. Furthermore, Cooper does not disclose that smoothing is considered in selecting a key frame. Therefore, Cooper cannot be interpreted as disclosing the limitations of claim 9.

Accordingly, claim 9 is not anticipated by Cooper under 35 U.S.C. § 102(b), and the rejection of claims 9-12, 23-26, 37-40 and 51-54 should be withdrawn.

VIII. CONCLUSION

For the reasons stated above, the Examiner has failed to establish that the claims 1-56 are anticipated by Cooper under 35 U.S.C. § 102(b). Appellant respectfully requests

that the Board reverse the rejections of the claims 1-56 under 35 U.S.C. § 102(b) and direct the Examiner to enter a Notice of Allowance for Claims 1-56.

Fee for Filing a Brief in Support of Appeal

Enclosed is a check in the amount of $500.00 to cover the fee for filing a brief in support of an appeal as required under 37 C.F.R. § 1.17(c) and 41.20(b)(2).

Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Appellant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 1/10/05

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APPENDIX A FOR APPEAL BRIEF UNDER 37 C.F.R. § 41.37(A)

1. A method comprising:

preparing autocrop data for each image of a sequence of images, each image comprising a frame of video data; and

storing autocrop data for each key frame of the sequence of images.

2. The method of Claim 1 wherein preparing autocrop data comprises:

determining the active region of a current image of the sequence of images.

3. The method of Claim 2 wherein determining the active region comprises:

selecting a portion of the current image as the active region of the current image such that all pixels outside the active region have no opacity.

4. The method of Claim 3 wherein selecting a portion comprises:

locating a first vertical line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

locating a second vertical line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image;

locating a first horizontal line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

locating a second horizontal line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image; and

storing data specifying the active region of the current image.

5. The method of Claim 4 wherein

locating the first vertical line and locating the second vertical line are performed before locating the first horizontal line and locating the second horizontal line; and

locating the first horizontal line and locating the second horizontal line each comprise examining pixels between the first vertical line and the second vertical line.

6. The method of Claim 4 wherein

locating the first horizontal line and locating the second horizontal line are performed before locating the first vertical line and locating the second vertical line; and

locating the first vertical line and locating the second vertical line each comprise examining pixels between the first horizontal line and the second horizontal line.

7. The method of Claim 4 wherein storing data specifying the active region of the current image comprises:

storing the x coordinate of the first vertical line, the x coordinate of the second vertical line, the y coordinate of the first horizontal line, and the y coordinate of the second horizontal line.

8. The method of Claim 1 further comprising:

determining which images of the sequence of images are key frames.

9. The method of Claim 8 wherein determining comprises:

determining whether the current image is the first frame of the sequence of images, and, if so, designating the current image as a key frame;

determining whether the active region of the current image is outside the active region of a prior image, and, if so, designating the current image as a key frame; and

determining whether smoothing is needed, and, if so, designating the current image as a key frame.

10. The method of Claim 9 wherein determining whether smoothing is needed comprises:

calculating the difference in area between the active region of the current image and the active region of the prior image; and

comparing the difference in area with a smoothing factor.

11. The method of Claim 10 wherein the smoothing factor is a numerical value set by a user.

12. The method of Claim 9 wherein the active region is a portion of any image such that all pixels outside the active region of the image have no opacity.

13. The method of Claim 2 further comprising:

adding a boundary to the active region of the current image.

14. The method of Claim 13 wherein the boundary is a numerical value set by a user.

15. A machine readable medium having stored thereon instructions which when executed by a processor cause the machine to perform operations comprising:

preparing autocrop data for each image of a sequence of images, each image comprising a frame of video data; and

storing autocrop data for each key frame of the sequence of images.

16. The machine readable medium of Claim 15 wherein preparing autocrop data causes the machine to perform operations comprising:

determining the active region of a current image of the sequence of images.

17. The machine readable medium of Claim 16 wherein determining the active region data causes the machine to perform operations comprising:

selecting a portion of the current image as the active region of the current image such that all pixels outside the active region have no opacity.

18. The machine readable medium of Claim 17 wherein selecting a portion causes the machine to perform operations comprising:

locating a first vertical line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

locating a second vertical line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image;

locating a first horizontal line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

locating a second horizontal line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image; and

storing data specifying the active region of the current image.

19. The machine readable medium of Claim 18 wherein:

locating the first vertical line and locating the second vertical line are performed before locating the first horizontal line and locating the second horizontal line; and

locating the first horizontal line and locating the second horizontal line each comprise examining pixels between the first vertical line and the second vertical line.

20. The machine readable medium of Claim 18 wherein:

locating the first horizontal line and locating the second horizontal line are performed before locating the first vertical line and locating the second vertical line; and

locating the first vertical line and locating the second vertical line each comprise examining pixels between the first horizontal line and the second horizontal line.

21. The machine readable medium of Claim 18 wherein storing data specifying the active region of the current image causes the machine to perform operations comprising:

storing the x coordinate of the first vertical line, the x coordinate of the second vertical line, the y coordinate of the first horizontal line, and the y coordinate of the second horizontal line.

22. The machine readable medium of Claim 15 having stored thereon further instructions which when executed by the processor cause the machine to perform further operations comprising:

determining which images of the sequences of image are key frames.

23. The machine readable medium of Claim 22 wherein determining causes the machine to perform operations comprising:

determining whether the current image is the first frame of the sequence of images, and, if so, designating the current image as a key frame;

determining whether the active region of the current image is outside the active region of a prior image, and, if so, designating the current image as a key frame; and

determining whether smoothing is needed, and, if so, designating the current image as a key frame.

24. The machine readable medium of Claim 23 wherein determining whether smoothing is needed causes the machine to perform operations comprising:

calculating the difference in area between the active region of the current image and the active region of the prior image; and

comparing the difference in area with a smoothing factor.

25. The machine readable medium of Claim 24 wherein the smoothing factor is a numerical value set by a user.

26. The machine readable medium of Claim 23 wherein the active region is a portion of any image such that all pixels outside the active region of the image have no opacity.

27. The machine readable medium of Claim 16 having stored thereon further instructions which when executed by the processor cause the machine to perform further operations comprising:

adding a boundary to the active region of the current image.

28. The machine readable medium of Claim 13 wherein the boundary is a numerical value set by a user.

29. A system comprising:

a processor coupled to a bus;

a memory coupled to the bus;

a storage device coupled to the bus, the storage device having stored thereon instructions which when executed by the processor cause the system to perform operations comprising:

preparing autocrop data for each image of a sequence of images, each image comprising a frame of video data; and

storing autocrop data for each key frame of the sequence of images on the storage device.

30. The system of Claim 29 wherein preparing autocrop data causes the system to perform operations comprising:

determining the active region of a current image of the sequence of images.

31. The system of Claim 30 wherein determining the active region data causes the system to perform operations comprising:

selecting a portion of the current image as the active region of the current image such that all pixels outside the active region have no opacity.

32. The system of Claim 31 wherein selecting a portion causes the system to perform operations comprising:

locating a first vertical line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

locating a second vertical line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image;

locating a first horizontal line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

locating a second horizontal line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image; and

storing data specifying the active region of the current image.

33. The system of Claim 32 wherein:

locating the first vertical line and locating the second vertical line are performed before locating the first horizontal line and locating the second horizontal line; and

locating the first horizontal line and locating the second horizontal line each comprise examining pixels between the first vertical line and the second vertical line.

34. The system of Claim 32 wherein:

locating the first horizontal line and locating the second horizontal line are performed before locating the first vertical line and locating the second vertical line; and

locating the first vertical line and locating the second vertical line each comprise examining pixels between the first horizontal line and the second horizontal line.

35. The system of Claim 32 wherein storing data specifying the active region of the current image causes the system to perform operations comprising:

storing the x coordinate of the first vertical line, the x coordinate of the second vertical line, the y coordinate of the first horizontal line, and the y coordinate of the second horizontal line.

36. The system of Claim 29 having further instructions which when executed by the processor cause the system to perform further operations comprising:

determining which images of the sequence of images are key frames.

37. The system of Claim 36 wherein determining causes the system to perform operations comprising:

determining whether the current image is the first frame of the sequence of images, and, if so, designating the current image as a key frame;

determining whether the active region of the current image is outside the active region of a prior image, and, if so, designating the current image as a key frame; and

determining whether smoothing is needed, and, if so, designating the current image as a key frame.

38. The system of Claim 37 wherein determining whether smoothing is needed causes the system to perform operations comprising:

calculating the difference in area between the active region of the current image and the active region of the prior image; and

comparing the difference in area with a smoothing factor.

39. The system of Claim 37 wherein the active region is a portion of any image such that all pixels outside the active region of the image have no opacity.

40. The system of Claim 39 having stored thereon further instructions which when executed by the processor cause the system to perform further operations comprising:

adding a boundary to the active region of the current image.

41. The system of Claim 29 wherein reading at least one sequence of images comprises:

transferring at least one sequence of images from the storage device to the memory.

42. The system of Claim 29 wherein reading at least one sequence of images comprises:

transferring at least one sequence of images from a remote storage device via a network.

43. An apparatus comprising:

means for preparing autocrop data for each image of a sequence of images, each image comprising a frame of video data; and

means for storing autocrop data for each key frame of the sequences of images.

44. The apparatus of Claim 43 wherein the means for preparing autocrop data comprises:

means for determining the active region of a current image of the sequence of images.

45. The apparatus of Claim 44 wherein the means for determining the active region comprises:

means for selecting a portion of the current image as the active region of the current image such that all pixels outside the active region have no opacity.

46. The apparatus of Claim 45 wherein the means for selecting a portion comprises:

means for locating a first vertical line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

means for locating a second vertical line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image;

means for locating a first horizontal line of pixels with at least one pixel having non-zero opacity closest to the origin of the current image;

means for locating a second horizontal line of pixels with at least one pixel having non-zero opacity furthest from the origin of the current image; and

means for storing data specifying the active region of the current image.

47. The apparatus of Claim 46 wherein

the means for locating the first vertical line and the means for locating the second vertical line process the current image before the means for locating the first horizontal line and the means for locating the second horizontal line; and

the means for locating the first horizontal line and the means for locating the second horizontal line each comprise means for examining pixels between the first vertical line and the second vertical line.

48. The apparatus of Claim 46 wherein

the means for locating the first horizontal line and the means for locating the second horizontal line process the current image before the means for locating the first vertical line and the means for locating the second vertical line; and

the means for locating the first vertical line and the means for locating the second vertical line each comprise means for examining pixels between the first horizontal line and the second horizontal line.

49. The apparatus of Claim 46 wherein the means for storing data specifying the active region of the current image comprises:

means for storing the x coordinate of the first vertical line, the x coordinate of the second vertical line, the y coordinate of the first horizontal line, and the y coordinate of the second horizontal line.

50. The apparatus of Claim 43 further comprising:

means for determining which images of the sequence of images are key frames.

51. The apparatus of Claim 50 wherein the means for determining comprises:

means for determining whether the current image is the first frame of the sequence of images, and, if so, designating the current image as a key frame;

means for determining whether the active region of the current image is outside the active region of a prior image, and, if so, designating the current image as a key frame; and

means for determining whether smoothing is needed, and, if so, designating the current image as a key frame.

52. The apparatus of Claim 51 wherein the means for determining whether smoothing is needed comprises:

means for calculating the difference in area between the active region of the current image and the active region of the prior image; and

means for comparing the difference in area with a smoothing factor.

53. The apparatus of Claim 52 wherein the smoothing factor is a numerical value set by a user.

54. The apparatus of Claim 51 wherein the active region is a portion of any image such that all pixels outside the active region of the image have no opacity.

55. The apparatus of Claim 44 further comprising:

means for adding a boundary to the active region of the current image.

56. The apparatus of Claim 55 wherein the boundary is a numerical value set by a user.

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FEE TRANSMITTAL FOR FY 2005

Effective on 12/08/2004. Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

TOTAL AMOUNT OF PAYMENT ($) 500.00

Complete if Known:

Application No.	09/665,721
Filing Date	9/18/00
First Named Inventor	Samra
Examiner Name	Tran, T.
Art Unit	2676
Attorney Docket No.	80398.P288

_____ Applicant claims small entity status. See 37 CFR 1.27.

METHOD OF PAYMENT (check all that apply)

__X__ Check _____ Credit Card _____ Money Order _____ None _____ Other (please identify)

_____ Deposit Account

Deposit Account Number : 02-2666

Deposit Account Name: _____

__X__ The Director is Authorized to do the following with respect to the above-identified Deposit Account:

- ____ Charge fee(s) indicated below.
- __X__ Charge any additional fee(s) or underpayment of fee(s) during the pendency of this application.
- ____ Charge fee(s) indicated below except for the filing fee
- __X__ Credit any overpayments.
- __X__ Any concurrent or future reply that requires a petition for extension of time should be treated as incorporating an appropriate petition for extension of time and all required fees should be charged.

Warning: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description		Fees Paid ($)
1011	300	2011	150	Utility application filing fee	1,000/500	_____
1111	500	2111	250	Utility search fee		_____
1311	200	2311	100	Utility examination fee		_____
1012	200	2012	100	Design application filing fee	430/215	_____
1112	100	2112	50	Design search fee		_____
1312	130	2312	65	Design examination fee		_____
1013	200	2013	100	Plant filing fee	660/330	_____
1113	300	2113	150	Plant search fee		_____
1313	160	2313	80	Plant examination fee		_____
1004	300	2004	150	Reissue filing fee	1,400/700	_____
1114	500	2114	250	Reissue search fee		_____
1314	600	2314	300	Reissue examination fee		_____
1005	200	2005	100	Provisional application filing fee		_____

SUBTOTAL (1) $ 0

2. EXCESS CLAIM FEES

		Extra Claims	Fee from below	Fees Paid ($)
Total Claims	_____ – 20 or HP =	_____	X _____	= _____
HP = highest number of total claims paid for, if greater than 20				
Independent Claims	_____ – 3 or HP =	_____	X _____	= _____
HP = highest number of independent claims paid for, if greater than 3				
Multiple Dependent Claims			_____	= _____

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	50	2202	25	Each claim over 20
1201	200	2201	100	Each independent claim over 3
1203	360	2203	180	Multiple dependent claims, if not paid
1204	200	2204	100	Reissue: each claim over 20 and more than in the original patent
1205	50	2205	25	Reissue: each independent claim more than in the original patent

SUBTOTAL (2) $ 0

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each add'l 50 or fraction thereof	Fee from below	Fees paid ($)
_____	– 100 =	_____	/ 50 =	_____ (round up to whole number)	X _____	_____

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description: Application size fee for each additional group of 50 sheets beyond initial 100 sheets (count spec & drawings except sequences & program listings):
1081	250	2081	125	Utility
1082	250	2082	125	Design
1083	250	2083	125	Plant
1084	250	2084	125	Reissue

SUBTOTAL (3) $ 0

Based on Form PTO/SB/17 (12-04) as modified by BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP on 12/13/04

FEE CALCULATION (continued)

4. OTHER FEE(S)

Non-English Specification, $130 fee (no small entity discount) — Fees Paid ($): _____

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fees Paid ($)
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1813	8,800	1813	8,800	Request for inter parties reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	120	2251	60	Extension for reply within first month	
1252	450	2252	225	Extension for reply within second month	
1253	1,020	2253	510	Extension for reply within third month	
1254	1,590	2254	795	Extension for reply within fourth month	
1255	2,160	2255	1,080	Extension for reply within fifth month	
1401	500	2401	250	Notice of Appeal	
1402	500	2402	250	Filing a brief in support of an appeal	500.00
1403	1,000	2403	500	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	500	2452	250	Petition to revive – unavoidable	
1453	1,500	2453	750	Petition to revive - unintentional	
1501	1,400	2501	700	Utility issue fee (or reissue)	
1502	800	2502	400	Design issue fee	
1503	1100	2503	550	Plant issue fee	
1462	400	1462	400	Petitions to the Commissioner (CFR 1.17(f) Group I)	
1463	200	1463	200	Petitions to the Commissioner (CFR 1.17(g) Group II)	
1464	130	1464	130	Petitions to the Commissioner (CFR 1.17(h) Group III)	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	For filing a submission after final rejection (see 37 CFR 1.129(a))	
1814	130	2814	65	Statutory Disclaimer	
1810	790	2810	395	For each additional invention to be examined (see 37 CFR 1.129(b))	
1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
1504	300	1504	300	Publication fee for early, voluntary, or normal pub.	
1505	300	1505	300	Publication fee for republication	
1803	130	1803	130	Request for voluntary publication or republication	
1808	130	1808	130	Processing fee under 37 CFR 1.17(i) (except provisionals)	
1454	1,370	1454	1,370	Acceptance of unintentionally delayed claim for priority	

Other fee (specify) _____ _____

Other fee (specify) _____ _____

SUBTOTAL (4) $ 500.00

*Reduced by Basic Filing Fee Paid

SUBMITTED BY:

Typed or Printed Name: Jeffrey S. Heileson

Signature: _____ Date: 1/10/05

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